



City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: City Utilities - Sewer/Stormwater

To: City Council

From: City Manager & Staff

Council Meeting Date: October 16, 2023

Re: Proposed construction of stormwater improvements on Calvert Drive, Sylvan Lane and Vandiver Drive, and proposed construction of sanitary sewer improvements on Calvert Drive.

Executive Summary

This is the public hearing concerning the replacement and improvement of public storm drainage infrastructure on Vandiver Drive and Sylvan Lane, including a regional detention basin at Calvert Drive, as well as a sanitary sewer relocation near Calvert Drive. The project location is shown on the Location Map. An interested parties meeting was held on February 15, 2023. The resolution estimate for the stormwater project is \$3,400,000, to be paid from Stormwater Utility funds. The Calvert Drive stormwater project has been approved by Missouri Department of Natural Resources (MDNR) for \$2,219,928.20 in reimbursable American Rescue Plan Act (ARPA) funds. The resolution estimate for the sanitary sewer relocation is \$255,000, to be paid from Sewer Utility funds.

Discussion

Calvert Drive Stormwater and Sanitary Sewer Improvement Project will consist of constructing stormwater infrastructure improvements on Vandiver Drive and Sylvan Lane, a regional detention basin at Calvert Drive, and relocating the sanitary sewer at Calvert Drive. Vandiver Drive has limited street inlet capacity and undersized stormwater pipes, causing frequent street flooding. Currently, the storm inlet system at Vandiver manages less than the 5-year rainfall runoff event, whereas the pipe can manage up to a 10-year rainfall runoff event. Vandiver Drive is classified as a major arterial road, and it is vital to keep the road well-drained. Additionally, the City's corrugated metal stormwater pipes (CMP) drain underneath the building at 2510 Vandiver Drive. The corrugated metal pipe is prone to rusting and deterioration and causing sinkholes when it fails. Therefore, relocation and upgrading the storm system is proposed to reduce flooding and eliminate future maintenance of the storm system from under the building.

The proposed plan, shown on the Stormwater Project Graphic, will improve stormwater management in the area. The proposed stormwater improvements include 2,080 feet of new stormwater conveyance, ten (10) inlets and six (6) stormwater structures. The proposed stormwater system is designed for the 100-year, or 1% recurrence interval, rainfall runoff event. There is no overflow path at this location, therefore the street will flood for extremely intense events. Street flooding frequency will be significantly reduced with this project.

The new storm drainage improvements are proposed to drain into a new regional detention basin, providing water quality treatment and flood detention for approximately 35 acres of drainage area in the Hinkson Creek watershed. The regional detention basin is designed for 100-year flood protection and the 1-year channel protection rainfall runoff events. The



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overflow weir for the basin is designed to manage the 100-year rainfall runoff event. Flood detention will provide a reduction in the frequency of flooding for properties downstream of the detention basin. In addition to flood protection, the detention basin will provide significant water quality benefit to Hinkson Creek. The 1-year channel protection design captures sediment in the smaller rainfall events and manages the rainfall runoff to reduce the potential for erosion in the downstream tributary to Hinkson Creek. Reducing sediment to Hinkson Creek provides water quality benefits. The Hinkson Creek Collaborative Adaptive Management (CAM) process was developed to address water quality impairments in Hinkson Creek, the proposed detention basin will support the goals of the process. Implementing stream erosion control projects is also part of the 5-year action plan for the Stormwater and Wastewater Integrated Management Plan.

As part of this project, the sanitary sewer will be relocated away from the proposed stormwater detention basin as shown in the Sewer Project Graphic. The proposed sanitary sewer improvements include approximately 490 feet of new sewer pipe and three (3) new sanitary sewer structures.

An Interested Parties (IP) Meeting was held on February 15, 2023 at City Hall. One property owner attended the meeting and was in support of this project. Staff has also met with the major property owner impacted by this project.

The resolution estimate for the stormwater project is \$3,400,000. Financing for this project will be through Storm Water Utility funds. The resolution estimate for the sanitary sewer project is \$255,000, which will be paid from Sewer Utility funds. The Calvert Drive stormwater project has been approved by Missouri Department of Natural Resources (MDNR) for \$2,219,928.20 in reimbursable American Rescue Plan Act (ARPA) funds. Once a grant contract is received from MDNR, the contract will be brought forward to Council for approval.

Fiscal Impact

Short-Term Impact: The resolution estimate for the stormwater improvements is \$3,400,000. The resolution estimate for the sanitary sewer relocation is \$255,000.
Long-Term Impact: There will be increased annual costs to maintain the detention basin. Work can be accomplished with current staffing and operations budget.

Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Reliable and Sustainable Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Environmental Management, Tertiary Impact: Land Use & Growth Management



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Legislative History

| Date | Action |
|------------|---|
| 09/05/2023 | R126-23 Setting a public hearing: proposed construction of stormwater improvements on Calvert Drive, Sylvan Lane and Vandiver Drive, and proposed construction of sanitary sewer improvements on Calvert Drive. |
| 04/17/2023 | R61-23 Authorizing an agreement for professional engineering services with Thouvenot, Wade & Moerchen, Inc. for topographic and boundary surveys for the Calvert Drive storm water improvement project. |

Suggested Council Action

Direct staff to proceed with final design of stormwater improvements on Calvert Drive, Sylvan Lane and Vandiver Drive, and sanitary sewer improvements on Calvert Drive.